Taking Preparedness Seriously: Emergency Exercises for Any Airport

Thursday, April 18, 2019
2:00-3:30 PM ET
Purpose


Learning Objectives

At the end of this webinar, you will be able to:

• Describe the tools and plans available for developing an effective exercise program for small airports
• Discuss the benefits of the TERA platform for airport preparedness exercises
• Identify how to access TERA and understand how to use the supporting materials available for TERA exercises
Brett W. Fay
Tampa International Airport

✈ Director of General Aviation
  ▪ TPA, TPF, VDF, PCM
✈ Airport Operations
  ▪ Lakeland International
  ▪ Aspen Pitkin County
  ✈ ARFF Certification
✈ Involved with ACRP 10+ Years
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3. Prepare a research proposal
4. Answer an ACRP survey
5. Apply the research results

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Today’s Speakers

James F. Smith, Smith-Woolwine, Inc.

Presenting ACRP Synthesis 72

_Table Top and Full-scale Emergency Exercises for General Aviation, Non-hub and Small Hub Airports_

and

Timothy M. Riecker, Emergency Preparedness Solutions, LLC

Presenting ACRP Report 187

_Transportation Emergency Response Application (TERA) Support Materials for Airport EOC Exercises_
TABLE TOP AND FULL-SCALE EXERCISES FOR GENERAL AVIATION, NON-HUB, AND SMALL HUB AIRPORTS

James F. Smith
Ricardo E. Garcia
John M. Sawyer
Kimberly A. Kendall
James F. Smith, PhD, P.E. (Emeritus)
Principal Investigator

- President, Smith-Woolwine, Inc.
- Professor Emeritus of Emergency and Disaster Management
- Author or Co-author of 5 ACRP Research Reports and 10 ACRP Syntheses
- Former Technical Director of Port Resiliency Project (PReP) for airports in Caribbean, Mexico & Central America
ACRP Report 72 Panel

DAVID BEAVER, Owatonna Degner Regional Airport
SCOTT R. BRUMMOND, Wisconsin DOT
BRETT FAY, Hillsborough County Aviation Authority
CHRISTIAN SALMON, Western New England University
MEAGHAN SMALLEY, Jacksonville Aviation Authority
CATHRYN STEPHENS, Eugene Airport
RAYVON WILLIAMS, Watsonville Municipal Airport
MARC TONNACLIFF, Federal Aviation Administration (Liaison)
Gail Staba, ACRP Senior Program Officer
Goals and Objectives of ACRP 11-03/S04-17

Helping smaller airports with relatively limited resources and staffing enhance their emergency exercise programs

Mobilizing emergency exercise procedures and lessons learned by largest airports in easily adaptable forms useful to airports of all types and sizes
Underlying Concepts

Holistic Concept of EM

CUSTOMER SERVICE

OPS & COOP

SAFETY

EM
Unlike Report 179, 72 is intended to be useful at GA airports as well as at Part 139 airports of all types, sizes, and locations.

72 does not presuppose use of the Transportation Emergency Response Application (TERA), but its materials can be used to enhance TERA-based exercises generated using Report 179.

72 applies whether or not an airport has an EOC.

72 assumes NIMS compliance but doesn’t depend on the ICS model—it presents airport practices as they were found.

72 focuses on HSEEP standards and procedures, presenting HSEEP-compliant models as its appendices.

Synthesis 90, *Incorporating ADA and Functional Needs in Emergency Exercises* (Smith & Haines, 2018) is a follow-on and specialized expansion of 72, which grew out of a further research need identified in 72.
MATERIALS REPRODUCED IN APPENDICES C-T

- Goals and Objectives (3 examples)
- TTX scenarios (2)
- Full-scale scenarios (2)
- Functional drill—complete package (1)
- TTX planning checklist (1)
- Full-scale planning checklist and timeline (1)
- Full-scale scenario, detailed timeline, and MSEL (1)
- Exercise brief for TTX with mutual aid partners (1)
- Exercise communications plan (1)
- Full-scale exercise safety plan (1)
- Evaluation plan and forms (1)
- Evaluation forms: participant feedback summary form (1)
- TTX evaluation checklist (1)
- Post-event documentation/hot wash summary
Post-event documentation / hot wash summary / hot wash debrief for full-scale exercise (1)
AAR for TTX (1)
AAR / AEP review (1)
AAR/IP (1)
Complete full-scale exercise plan (fully HSEEP-compliant) (1)
Checklist for creating and improving emergency exercises at GA, non-hub, and small hub airports
Road map for development of exercise program
This shows just the first 12 items out of 41 items in the checklist. There are items for Planning, Execution, Evaluation, and the Use of Exercise Results. See Appendix Z of Synthesis 72.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Action</th>
<th>Applies to Airport</th>
<th>Done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Insert exercise requirement and schedule in airport emergency plan (AEP) even if airport is not required to have an AEP by FAR Part 139 and FAA Advisory Circular 150-5200-31C.</td>
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<tr>
<td>Planning</td>
<td>Use building block approach to build exercise program (discussion-based exercises leading to table top exercises leading to full-scale exercises.</td>
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<tr>
<td>Planning</td>
<td>Avoid jumping into an overly complex full-scale exercise without building towards it through training, discussion-based exercises, table top exercises, and functional exercises.</td>
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<tr>
<td>Planning</td>
<td>Create culture that an effective exercise program is a conduit to enhanced customer service.</td>
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<tr>
<td>Planning</td>
<td>Involve widest appropriate range of stakeholders and partners in planning of exercises.</td>
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<tr>
<td>Planning</td>
<td>Include airlines and private pilots who use the airport.</td>
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<tr>
<td>Planning</td>
<td>Involve airport’s volunteers or community volunteer groups in planning of and training for exercise.</td>
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<tr>
<td>Planning</td>
<td>Request exercise materials and tools from other airports.</td>
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<tr>
<td>Planning</td>
<td>Seek HSEEP training for airport staff member(s) or even just precursor FEMA EMI courses.</td>
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<tr>
<td>Planning</td>
<td>Develop relationships with partner agencies to get access to HSEEP-trained personnel and exercise assistance.</td>
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<tr>
<td>Planning</td>
<td>Budget realistically for exercise costs.</td>
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<tr>
<td>Planning</td>
<td>Conduct realistic hazard analysis to determine likelihood (probability), severity, and impact of all possible events.</td>
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</table>
# Road Map for Development of Exercise Program

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Product</th>
<th>Lead/Participants</th>
<th>Reference(s) [links in References list]</th>
<th>Due</th>
<th>Done</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Develop AEP (even if a non-FAR Part 139 airport)</td>
<td>Airport Emergency Plan incorporating by reference exercise requirements, frequencies, and program for applying lessons learned, etc.</td>
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<td>CFR Part 139.325 Airport Emergency Plan</td>
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<td>2</td>
<td>Develop Training and Exercise Plan</td>
<td>Multi-year exercise and training program documenting and prioritizing the training and exercises to be conducted.</td>
<td></td>
<td>HSEEP Exercise Program Management, User Guide; HSEEP Exercise Program Management, Workshop Presentation; HSEEP Exercise Program Management, Training and Exercise Plan Template</td>
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<td>3</td>
<td>Design and Develop the Exercise</td>
<td>Exercise Plan; use HSEEP Master Task List Template.</td>
<td></td>
<td>HSEEP Exercise and Development; HSEEP Exercise and Development, Master Task List; HSEEP Exercise and Development, Exercise Plan &amp; Prepare Ohio, Sample Master Scenario Events List (MSEL)</td>
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<td>4</td>
<td>Develop Exercise Evaluation Process</td>
<td>Exercise Evaluation Plan</td>
<td></td>
<td>HSEEP Exercise Evaluation</td>
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<td>5</td>
<td>Conduct Exercise</td>
<td>Brief actors, participants, evaluators, officials</td>
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<td>HSEEP Exercise Conduct, toolkit containing various templates for exercise briefings, debriefings, and documentation.</td>
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<td>6</td>
<td>Exercise Evaluation</td>
<td>Evaluate the exercise using the Exercise Evaluation Guides developed for the exercise.</td>
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<td>HSEEP Exercise Evaluation; Exercise Evaluation Guides Instructions; Exercise Evaluation Guides, Samples; FEMA Core Capabilities</td>
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<td>7</td>
<td>Improvement Planning</td>
<td>Conduct and After-Action/Improvement Plan meeting to develop and AAR/IP</td>
<td></td>
<td>HSEEP Improvement Planning</td>
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Notes:

1. Stakeholder involvement in all stages of exercise program planning is essential.
2. Using alternative title of “Training” instead of “Exercise” may make participation in planned evolutions more attractive to fire, law enforcement, and other first responders to show up and gain airport familiarity.

Source: Smith, Garcia, Sawyer and Kenville, adapted from HSEEP primary documents as noted.
Small airports can and do have effective exercise programs—e.g., Lakeland Linder

Many of the 58 airports believe that an effective exercise program not only improves safety but also enhances customer service.

Even airports that are not required to have exercises by FAR 139 choose to carry out table top or full-scale exercises.

Many larger airports have usable, scalable exercise tools that they are willing to share with other airports, saving those airports time and effort.

Small airports with limited resources may have trouble adapting HSEEP-based exercise materials but can profitably get help from local or state EM agencies.

A building block approach—i.e., discussion-based exercises that lead to TTXs, then functional exercises, and ultimately full-scale exercises—is usually best.

Target capabilities better dictate exercises than the other way round—base scenarios on likelihood, severity, and impact of possible incidents.
• Broad stakeholder involvement can minimize costs and maximize effectiveness.
• ICS-structured exercise control teams and explicit safety plans generally make airports more satisfied with their exercise.
• Communications plans and procedures including use of social media belong in most TTX and full-scale exercises.
• Formal evaluation procedures are generally included in effective exercise plans—this is the HSEEP standard and sound practice.
• Airports that have a formal process for incorporating lessons learned from exercises into emergency plans and procedures—i.e., a strong AAR-IP process—appear to feel more secure about their preparedness and resiliency.
• None of the 58 airports reported (in summer/early fall 2015) having evaluation criteria for emergency exercise EFFECTIVENESS.
LESSONS LEARNED SINCE SYNTHESIS 72

Build in these features into exercises:

- Family assistance programs
- EWG or similar function
- Crisis communications
- Social media
- Stakeholder involvement including public, esp. ADA and AFN
Further Research Needs Identified

- A similar study of aviation security (AVSEC) exercises for smaller airports
- Potential for statewide or regional consortia for training and exercises for general aviation, non-hub, and small hub airports to share expertise and scarce resources
- Training and exercise guidance for local law enforcement agencies when responding to an incident at an airport, including how to enter airport and move around AOA
- HSEEP guidance specifically intended for airports (ACRP 179!)
- Methods for automated updating of call list databases and making databases and call lists consistent across all airport plans such as airport emergency plans, standard operating procedures, and airport security programs
- A possible connection among excellence in emergency management, customer service, traveler experience, and airport revenues
- Development and verification of widely acceptable metrics for emergency management training, exercises, preparedness, and resiliency
Every airport in the study—Part 139 or GA, large or small—found benefits from going beyond regulatory minima for training and exercises.*

*But most of the 59 airports were chosen because they were reputed to have good to outstanding exercise programs and/or crisis communications plans.
### THANK YOU

#### PARTICIPATING AIRPORTS

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FOR ADDITIONAL INFORMATION

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Transportation Emergency Response Application (TERA)
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- Associate Dean of Academic Affairs, Herkimer College
Timothy Riecker, CEDP
Project Manager

- Partner and Principal Consultant, Emergency Preparedness Solutions, LLC
- 23 year career in public safety
- Specializing in NIMS, HSEEP, DSCA
ACRP Report 187 Oversight Panel

Craig Williams, Bishop International Airport, Flint MI (Chair)
Lorena de Rodriguez, SSi, Inc., Tucson AZ
Michael P Hainsey, Golden Triangle Regional Airport, Columbus MS
Elizabeth A. Hendel, Phoenix Fire Department, Phoenix AZ
David Jividen, Gilbert AZ
Daniel J. Sal, Cherry Capital Airport, Traverse City MI
Marc Tonnacliff, FAA Liaison
W. Scott Brotemarkle, TRB Liaison
Marci A. Greenberger, ACRP Senior Program Officer
Various relevant documents
- Support Materials (report)
  - Templates available via zipped file
- Final Research Report
- Supports HSEEP-consistent implementation
- Exercises are facilitated through TERA (ECS)
- 9 scenarios as identified in FAR Part 139
- Re-developed exercises and tested at airports
- Published September 2018
Goal: To field-test the airport exercises within TERA

- Assess existing scenarios
- Update as needed
- On-site field-test to validate with the airport community

Established learning objectives

- Apply NIMS/ICS response protocols in airport emergency situations
- Determine the correct degree of response, at the correct time, during an emergency
- Differentiate important from unimportant information during a crisis
- Determine short- and long-term recovery and restoration needs for the airport*
- State how incoming and outgoing information should flow during a crisis
- Define the roles and duties of the personnel around them
- Describe the actions that promote effective planning during an emergency

Field-tested at airports around the nation of various sizes
TERA is a web-based emergency management exercise tool

Supports exercise facilitation through MSEL integration and participant interaction

- Audio (i.e. radio transmissions)
- Video/images
- Phone calls
- Emails
- Instant messaging
- ‘Visits’
- Role-specific
- Supporting documents
- Exercise controls

Includes DOT, transit, rail, and airport domains

Supports individual and group exercises

Provided free for use via TRB program funding (NCHRP, TCRP, ACRP)

TERA is NOT an incident management system!
Project Outcomes

Exercises meet standards
- NIMS
- HSEEP

Customizable scenarios
- Location
- Capability
- Participants

Supporting documents
- ExPlan
- Player Briefing
- Controller/Facilitator Handbook
- Evaluator Handbook with EEGs

9 Functional Exercises
- Aircraft incidents and accidents
- Bomb threats
- Structural fires
- Fuel farm fires
- Natural disasters
- HazMat
- Sabotage
- Power failure
- Water rescue
Participant Feedback

Participant Feedback: 'TERA enhanced the exercise experience'

- 36% rated it 5 (highest agreement)
- 21% rated it 4
- 8% rated it 2
- 0% rated it 1

Participant Feedback: 'The exercise scenario was plausible and realistic'

- 38% rated it 5 (highest agreement)
- 13% rated it 3
- 43% rated it 4
- 6% rated it 2
- 0% rated it 1

*5 is highest agreement
Putting it into Action

Get familiar with TERA and the scenarios

- Tutorial and guidance documents available on the TERA site
- Identify how/if it will work for you
- https://tera.train-emst.com

Tech stuff

- Computer/internet access is a must
- Computer literacy

Dust off your AEP

- Is it up to date?
- Are people trained in it?
- Are people familiar with your EOC and ICS?

Work up to it if you have to

- Conduct seminars and tabletop exercises
Putting it into Action

Plan the TERA exercise

→ Logistics
  - Who
    → Players and support staff
    → TERA accounts
  - What
  - When
    → Schedule it within TERA
  - Where
→ Review and customize the exercise support documents

Customize the TERA exercise for your airport

→ Do a dry run and become familiar with TERA controls

Ask for help if you need it
Prepare, prepare, prepare

Computers, internet connectivity, and tech literacy is imperative

Several airports used this as an opportunity to further preparedness initiatives

- Plan updates
- Equipment purchases
- Training
- Prepare for a specific event

TERA enhances engagement, but get participants away from their screens

- Encourage participants to do activities as they would
  - Whiteboards
  - Meetings and briefings
- Yes, you can staff beyond the identified positions

May not be appropriate for General Aviation facilities

Understand that the exercises are generic

No ASHER exercise
FOR ADDITIONAL INFORMATION

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Today’s Participants

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- James Smith, *Smith-Woolwine, Inc.*, jfsmith@SWVA.net
- Timothy Riecker, *Emergency Preparedness Solutions, LLC*, tim@epsllc.biz
Panelists Presentations


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Report 12: *An Airport Guide for Regional Emergency Planning for CBRNE Events*

Report 88: *Guidebook on Integrating GIS in Emergency Management at Airports*

Report 94: *Integrating Web-Based Emergency Management Collaboration Software into Airport Operations--A Primer*

Synthesis 50: *Effective Cooperation Among Airports and Local and Regional Emergency Management Agencies for Disaster Preparedness and Response*

Synthesis 60: *Airport Emergency Post-Event Recovery Practices*

Synthesis 73: *Emergency Communications Planning for Airports*

Synthesis 82: *Uses of Social Media to Inform Operational Response and Recovery During an Airport Emergency*

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